FIG. 1

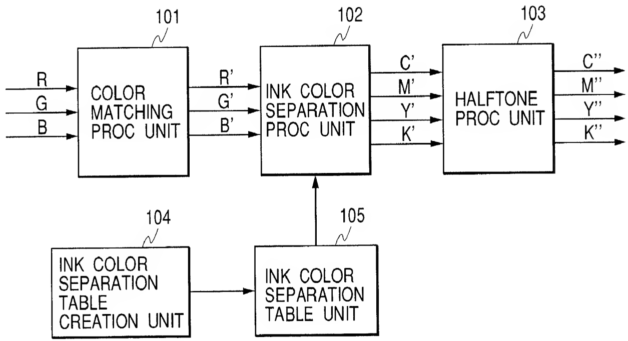

101
102
103
R
G
B
COLOR MATCHING PROC UNIT
R'
G'
B'
INK COLOR SEPARATION PROC UNIT
C'
M'
Y'
K'
HALFTONE PROC UNIT
C''
M''
Y''
K''
104
INK COLOR SEPARATION TABLE CREATION UNIT
105
INK COLOR SEPARATION TABLE UNIT

FIG. 2A

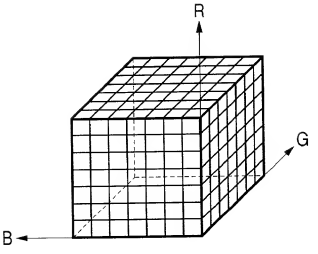


FIG. 2B

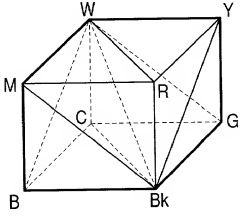


FIG. 2C

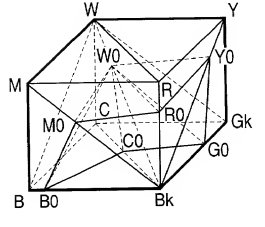


FIG. 3

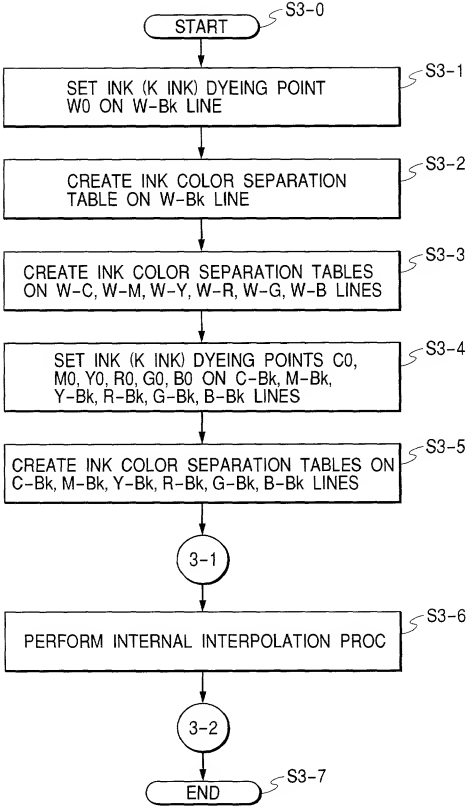

START
S3-0
SET INK (K INK) DYEING POINT W0 ON W-Bk LINE
S3-1
CREATE INK COLOR SEPARATION TABLE ON W-Bk LINE
S3-2
CREATE INK COLOR SEPARATION TABLES ON W-C, W-M, W-Y, W-R, W-G, W-B LINES
S3-3
SET INK (K INK) DYEING POINTS C0, M0, Y0, R0, G0, B0 ON C-Bk, M-Bk, Y-Bk, R-Bk, G-Bk, B-Bk LINES
S3-4
CREATE INK COLOR SEPARATION TABLES ON C-Bk, M-Bk, Y-Bk, R-Bk, G-Bk, B-Bk LINES
S3-5
3-1
PERFORM INTERNAL INTERPOLATION PROC
S3-6
3-2
END
S3-7

FIG. 4A

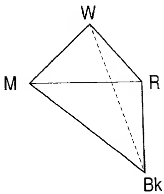


FIG. 4D

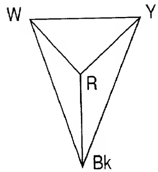


FIG. 4B

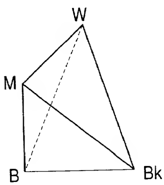


FIG. 4E

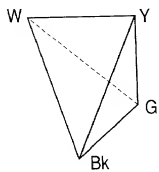


FIG. 4C

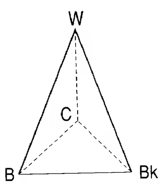


FIG. 4F

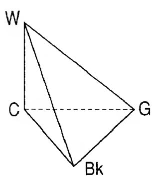


FIG. 5

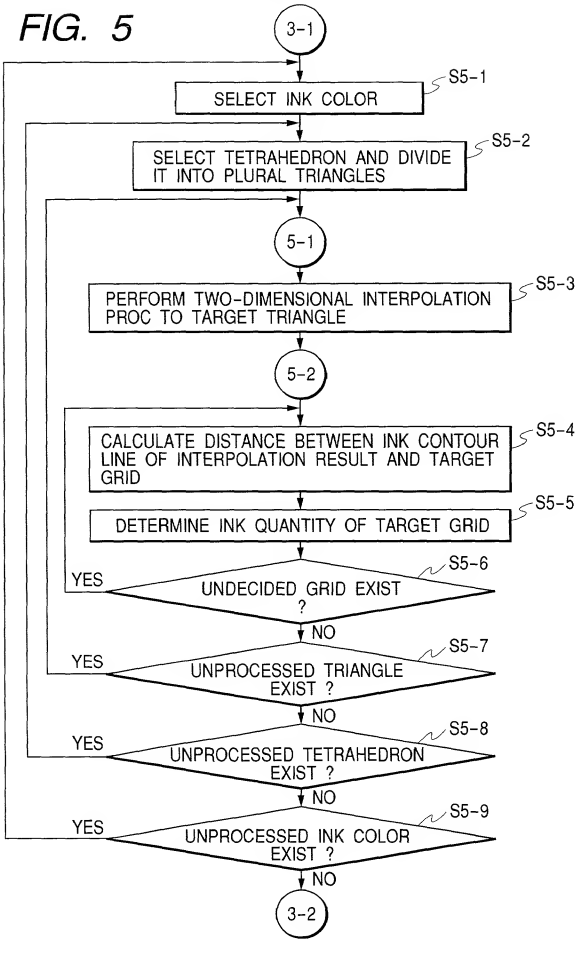

3-1
S5-1
SELECT INK COLOR
S5-2
SELECT TETRAHEDRON AND DIVIDE IT INTO PLURAL TRIANGLES
5-1
S5-3
PERFORM TWO-DIMENSIONAL INTERPOLATION PROC TO TARGET TRIANGLE
5-2
S5-4
CALCULATE DISTANCE BETWEEN INK CONTOUR LINE OF INTERPOLATION RESULT AND TARGET GRID
S5-5
DETERMINE INK QUANTITY OF TARGET GRID
S5-6
YES
UNDECIDED GRID EXIST ?
NO
S5-7
YES
UNPROCESSED TRIANGLE EXIST ?
NO
S5-8
YES
UNPROCESSED TETRAHEDRON EXIST ?
NO
S5-9
YES
UNPROCESSED INK COLOR EXIST ?
NO
3-2

FIG. 6

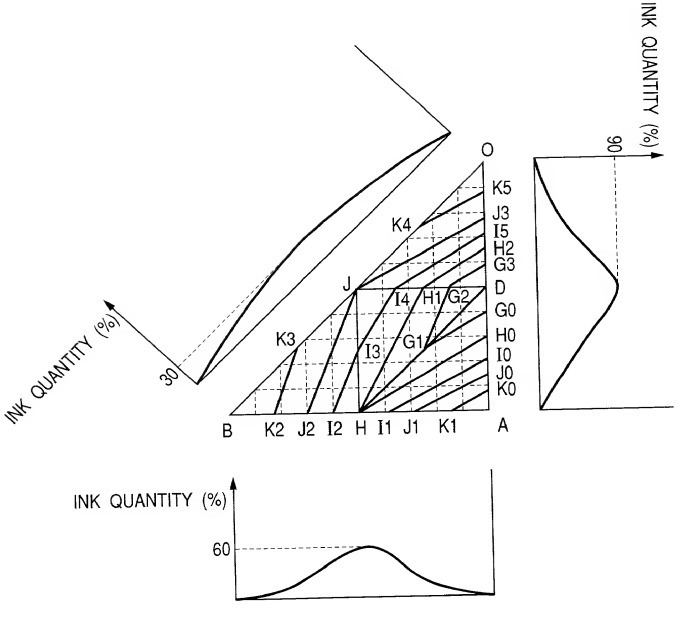

INK QUANTITY (%)
90
O
K5
J3
I5
H2
G3
D
G0
H0
I0
J0
K0
K4
J
I4
H1
G2
K3
I3
G1
30
INK QUANTITY (%)
B
K2
J2
I2
H
I1
J1
K1
A
INK QUANTITY (%)
60

FIG. 7

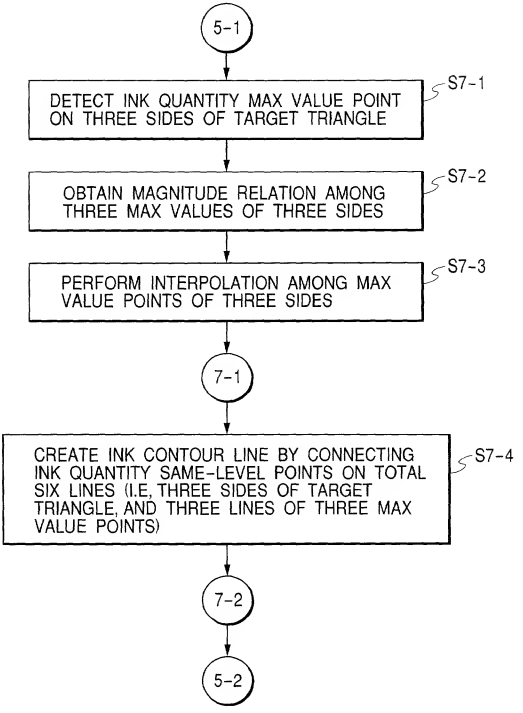

5-1
DETECT INK QUANTITY MAX VALUE POINT ON THREE SIDES OF TARGET TRIANGLE
S7-1
OBTAIN MAGNITUDE RELATION AMONG THREE MAX VALUES OF THREE SIDES
S7-2
PERFORM INTERPOLATION AMONG MAX VALUE POINTS OF THREE SIDES
S7-3
7-1
CREATE INK CONTOUR LINE BY CONNECTING INK QUANTITY SAME-LEVEL POINTS ON TOTAL SIX LINES (I.E, THREE SIDES OF TARGET TRIANGLE, AND THREE LINES OF THREE MAX VALUE POINTS)
S7-4
7-2
5-2

FIG. 8

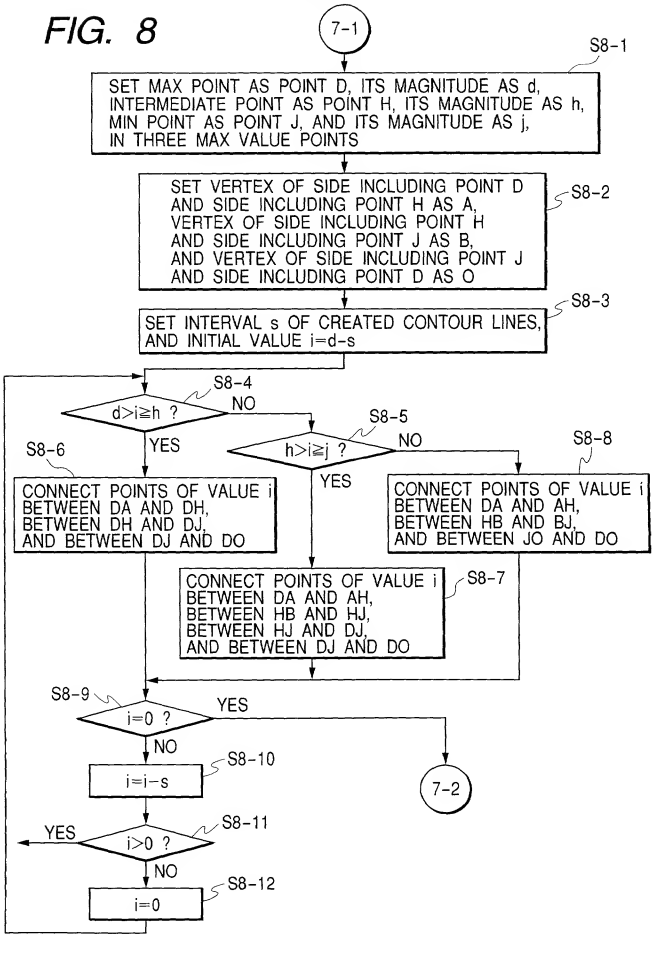

7-1
S8-1
SET MAX POINT AS POINT D, ITS MAGNITUDE AS d,
INTERMEDIATE POINT AS POINT H, ITS MAGNITUDE AS h,
MIN POINT AS POINT J, AND ITS MAGNITUDE AS j,
IN THREE MAX VALUE POINTS
SET VERTEX OF SIDE INCLUDING POINT D
AND SIDE INCLUDING POINT H AS A,
VERTEX OF SIDE INCLUDING POINT H
AND SIDE INCLUDING POINT J AS B,
AND VERTEX OF SIDE INCLUDING POINT J
AND SIDE INCLUDING POINT D AS O
S8-2
SET INTERVAL s OF CREATED CONTOUR LINES,
AND INITIAL VALUE i=d-s
S8-3
S8-4
d>i≥h ?
NO
YES
S8-5
h>i≥j ?
NO
YES
S8-6
S8-8
CONNECT POINTS OF VALUE i
BETWEEN DA AND DH,
BETWEEN DH AND DJ,
AND BETWEEN DJ AND DO
CONNECT POINTS OF VALUE i
BETWEEN DA AND AH,
BETWEEN HB AND BJ,
AND BETWEEN JO AND DO
CONNECT POINTS OF VALUE i
BETWEEN DA AND AH,
BETWEEN HB AND HJ,
BETWEEN HJ AND DJ,
AND BETWEEN DJ AND DO
S8-7
S8-9
j=0 ?
YES
NO
i=i-s
S8-10
7-2
YES
i>0 ?
S8-11
NO
i=0
S8-12

FIG. 9

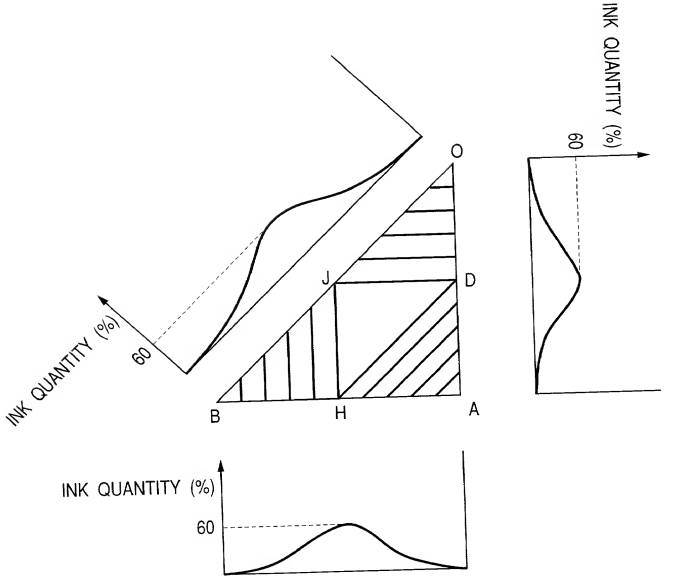


FIG. 10

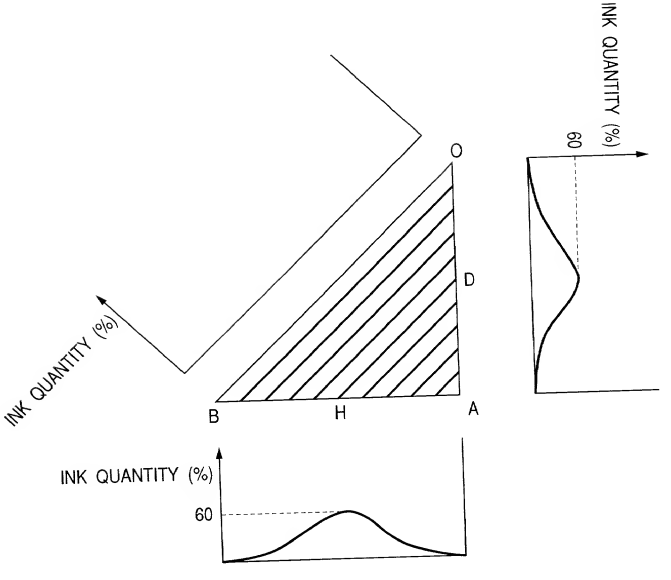


FIG. 11

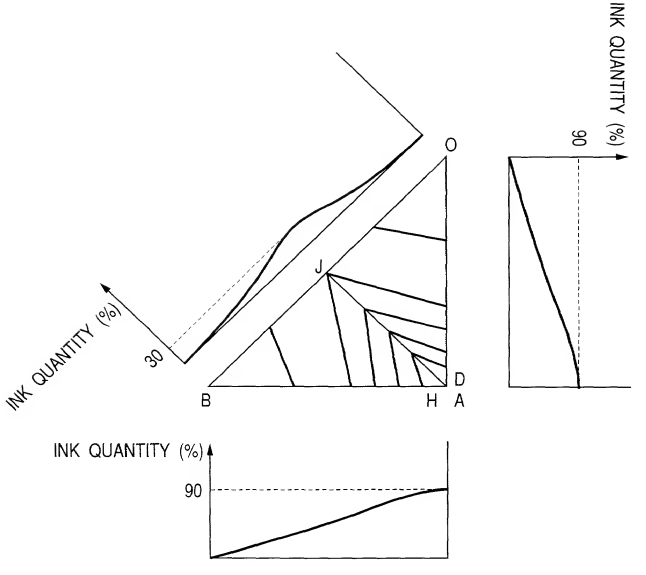


FIG. 12

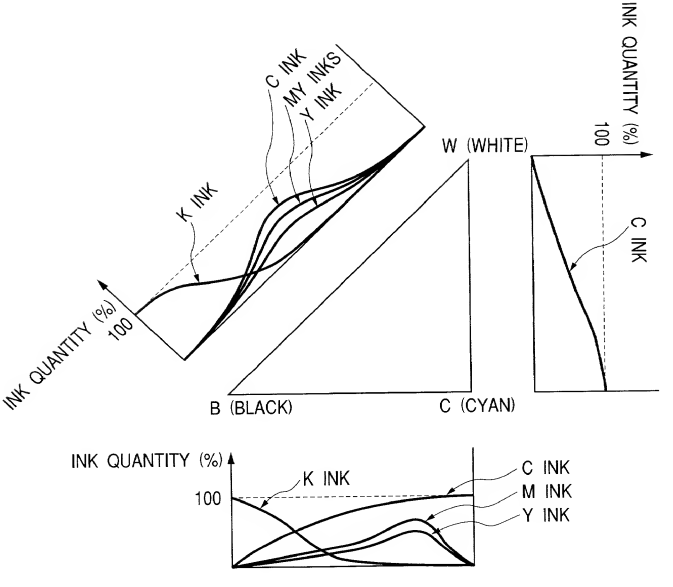

C INK
MY INKS
Y INK
K INK
INK QUANTITY (%)
100
W (WHITE)
B (BLACK)
C (CYAN)
INK QUANTITY (%)
100
C INK
INK QUANTITY (%)
100
K INK
C INK
M INK
Y INK

FIG. 13A

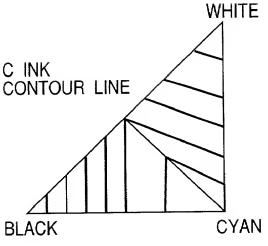


FIG. 13B

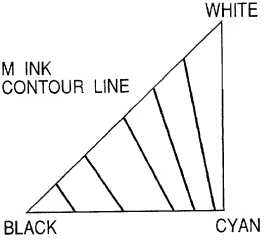


FIG. 13C

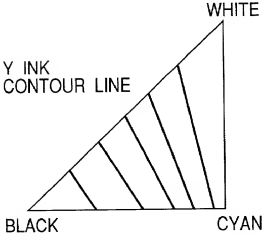


FIG. 13D

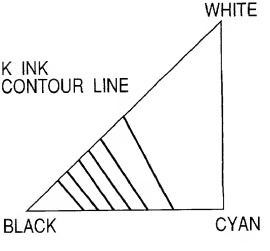


FIG. 14

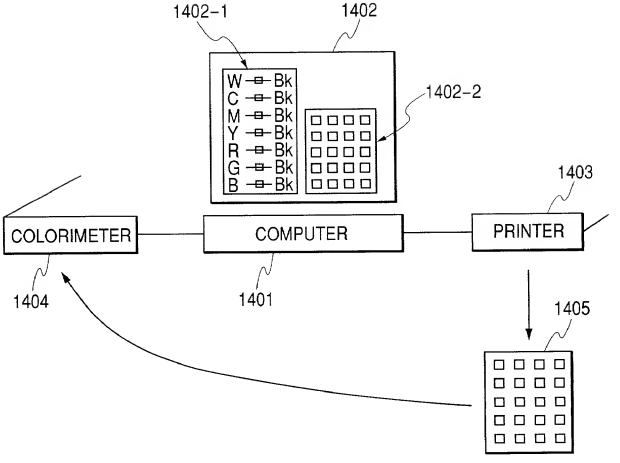

1402-1
1402
W Bk
C Bk
M Bk
Y Bk
R Bk
G Bk
B Bk
1402-2
1403
COLORIMETER
COMPUTER
PRINTER
1404
1401
1405

FIG. 15

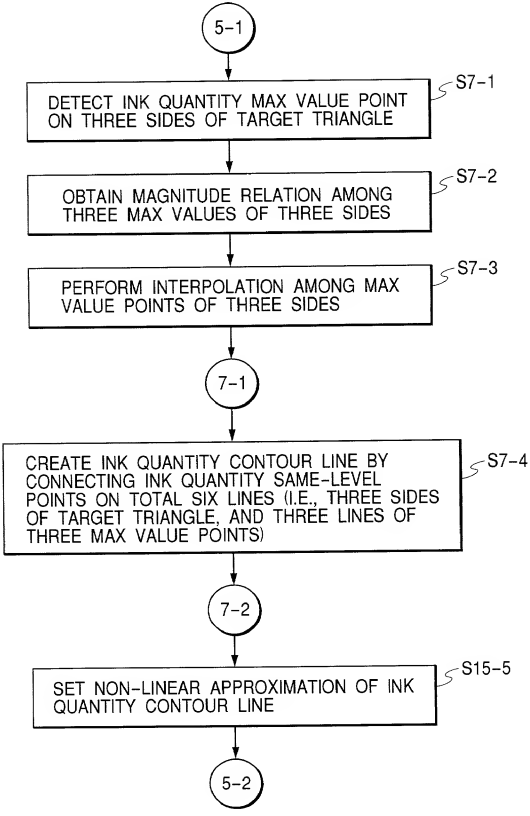

5-1
DETECT INK QUANTITY MAX VALUE POINT ON THREE SIDES OF TARGET TRIANGLE
S7-1
OBTAIN MAGNITUDE RELATION AMONG THREE MAX VALUES OF THREE SIDES
S7-2
PERFORM INTERPOLATION AMONG MAX VALUE POINTS OF THREE SIDES
S7-3
7-1
CREATE INK QUANTITY CONTOUR LINE BY CONNECTING INK QUANTITY SAME-LEVEL POINTS ON TOTAL SIX LINES (I.E., THREE SIDES OF TARGET TRIANGLE, AND THREE LINES OF THREE MAX VALUE POINTS)
S7-4
7-2
SET NON-LINEAR APPROXIMATION OF INK QUANTITY CONTOUR LINE
S15-5
5-2

FIG. 16

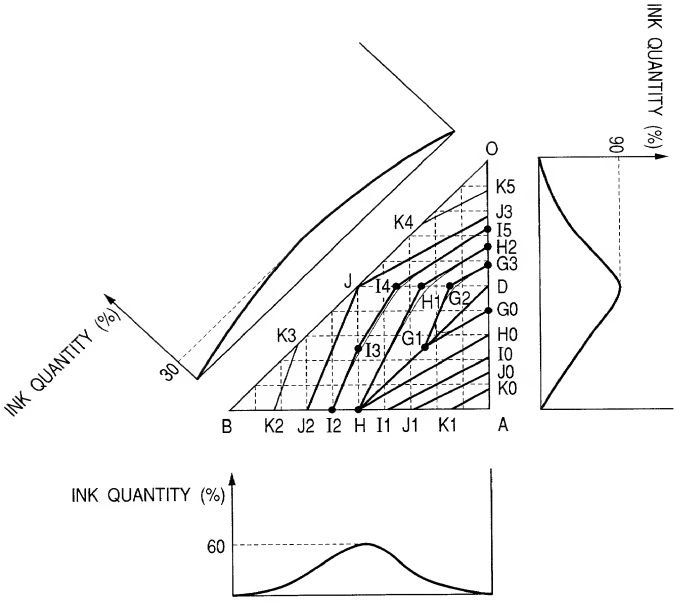

INK QUANTITY (%)
90
O
K5
J3
I5
H2
G3
D
G0
H0
I0
J0
K0
K4
J
I4
H1
G2
K3
I3
G1
30
B
K2
J2
I2
H
I1
J1
K1
A
INK QUANTITY (%)
60

FIG. 17

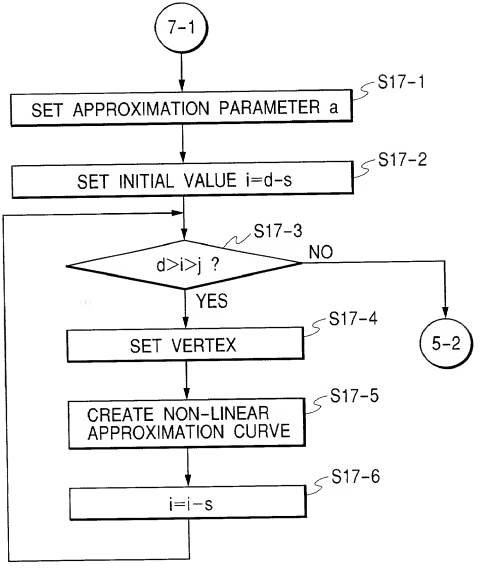

7-1
SET APPROXIMATION PARAMETER a
S17-1
SET INITIAL VALUE i=d-s
S17-2
d>i>j ?
S17-3
NO
YES
SET VERTEX
S17-4
5-2
CREATE NON-LINEAR APPROXIMATION CURVE
S17-5
i=i-s
S17-6

FIG. 18

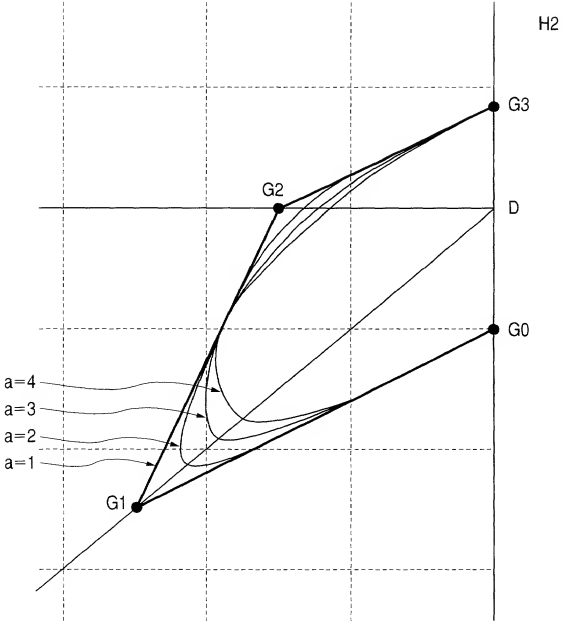


FIG. 19

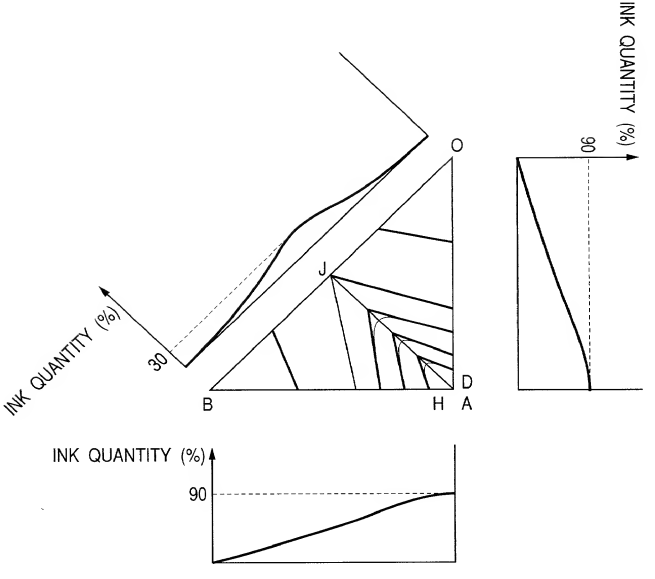


FIG. 20A

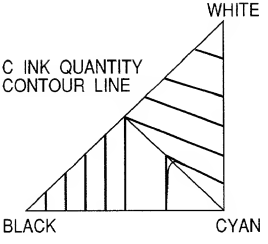


FIG. 20B

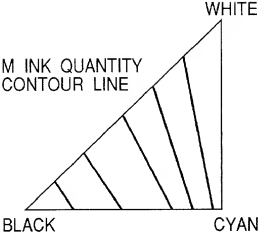


FIG. 20C

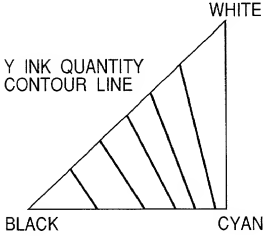


FIG. 20D

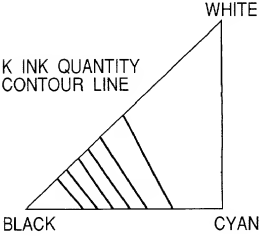


FIG. 21

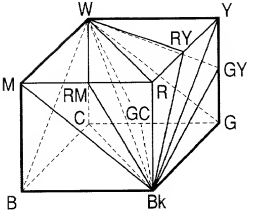
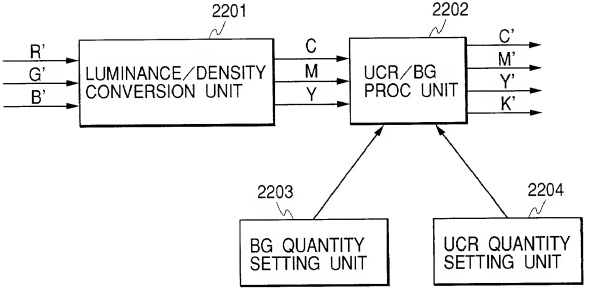

W
Y
RY
GY
M
RM
R
C
GC
G
B
Bk

FIG. 22


2201
2202
R'
G'
B'
LUMINANCE/DENSITY CONVERSION UNIT
C
M
Y
UCR/BG PROC UNIT
C'
M'
Y'
K'
2203
2204
BG QUANTITY SETTING UNIT
UCR QUANTITY SETTING UNIT